

09/639,907

Amendments to the Claims:

Please cancel claims 1 and 10-16. Please amend claims 2-9 and 32, and please add new claims 64 and 65 as follows:

1. (Cancelled)

2. (Currently amended) The method of claim 74 wherein the microelectronic substrate has a first surface and a second surface facing opposite the first surface, the first surface having a plurality of bond sites for electrical connections to the microelectronic substrate, and further wherein exposing a portion of a surface of the microelectronic substrate includes exposing a portion of the second surface of the microelectronic substrate.

3. (Currently amended) The method of claim 74, further comprising:
mounting the microelectronic substrate to a support member with a first surface of the microelectronic substrate facing the support member and a second surface of the microelectronic substrate facing away from the support member;
electrically coupling the microelectronic substrate to the support member;
disposing the encapsulating material adjacent to both the microelectronic substrate and the support member; and
exposing at least a portion of the second surface of the microelectronic substrate
by directing laser radiation toward the portion of the encapsulating material in direct contact with the second surface to ablate the portion of the encapsulating material.

4. (Currently amended) The method of claim 74, further comprising:
selecting the microelectronic substrate to include a memory chip;
mounting the microelectronic substrate to a printed circuit board; and
disposing the encapsulating material adjacent to both the printed circuit board
and the microelectronic substrate.

5. (Currently amended) The method of claim 74, further comprising transferring heat directly away from the exposed portion of the surface of the microelectronic substrate.

6. (Currently amended) The method of claim 47, further comprising convectively transferring heat directly away from the exposed portion of the surface of the microelectronic substrate.

7. (Currently amended) A method for packaging a microelectronic substrate, comprising:

disposing an encapsulating material in direct contact with a surface of the microelectronic substrate and

exposing at least a portion of the surface of the microelectronic substrate by

removing a portion of the encapsulating material in direct contact with the surface of the microelectronic substrate with the microelectronic substrate in an operable condition after the portion of the encapsulating material is removed;

~~The method of claim 1~~ wherein removing a portion of the encapsulating material includes directing laser radiation toward the encapsulating material.

8. (Currently amended) The method of claim 47 wherein removing the portion of the encapsulating material includes directing a laser beam having a power of from about 4 watts to about 25 watts toward the encapsulating material.

9. (Currently amended) The method of claim 74 wherein removing the portion of the encapsulating material includes sequentially removing layers of the portion of the encapsulating material by sequentially exposing the layers of encapsulating material to laser radiation.

10-31. (Cancelled)

32. (Currently amended) A method for packaging a microelectronic substrate, comprising:

mounting the microelectronic substrate to a support member with a first surface of the microelectronic substrate facing the support member and a second surface of the microelectronic substrate facing opposite the first surface;

electrically coupling the microelectronic substrate to the support member by passing wire bonds through an aperture in the support member and connecting one end of each wire bond to the support member and an opposite end of each wire bond to the microelectronic substrate;

encapsulating the microelectronic substrate and at least a portion of the support member by disposing an encapsulating material over the support member and the second surface of the microelectronic substrate; and

directing a source of laser radiation toward the second surface of the microelectronic substrate to remove at least a portion of the encapsulating material adjacent to the second surface and expose the second surface ~~with the overall thickness of the at least partially encapsulated microelectronic substrate and support member remaining at least approximately the same before and after the encapsulating material is removed.~~

33. (Original) The method of claim 32, further comprising forming a heat transfer feature in the encapsulating material by removing a portion of the encapsulating material to define an exposed external surface of the heat transfer feature.

34. (Original) The method of claim 32 wherein directing the source of laser radiation includes directing a laser beam having a power of from about 4 watts to about 25 watts.

35. (Original) The method of claim 32 wherein directing the source of laser radiation includes engaging a laser beam with the encapsulating material to remove a

first portion of the encapsulating material and engaging the laser beam with the encapsulating material again to remove a second portion of the encapsulating material initially covered by the first portion of the encapsulating material.

36. (Original) The method of claim 32 wherein removing a portion of the encapsulating material includes removing a layer of encapsulating material having a thickness of greater than about 0.003 inch.

37-63. (Cancelled)

64. (New) A method for packaging a microelectronic substrate, the method comprising:

mounting the microelectronic substrate to a dielectric support member with a first surface of the microelectronic substrate facing the dielectric support member and a second surface of the microelectronic substrate facing opposite the first surface;

electrically coupling the microelectronic substrate to the dielectric support member by passing wire bonds through an aperture in the support member and connecting one end of each wire bond to the support member and an opposite end of each wire bond to the microelectronic substrate;

disposing an encapsulating material over the second surface of the microelectronic substrate and at least a portion of the support member; and

exposing at least a portion of the second surface of the microelectronic substrate by removing a portion of the encapsulating material adjacent to the second surface.

65. (New) A method for packaging a microelectronic substrate, the method comprising:

mounting the microelectronic substrate to a surface of a support member with a first surface of the microelectronic substrate facing the surface of the

support member and a second surface of the microelectronic substrate facing away from the support member;

electrically coupling the microelectronic substrate to the support member by passing wire bonds through an aperture in the support member and connecting one end of each wire bond to the support member and an opposite end of each wire bond to the microelectronic substrate;

disposing an encapsulating material over the second surface of the microelectronic substrate and at least a portion of the support member such that a first portion of the encapsulating material projects from the surface of the support member; and

exposing at least a portion of the second surface of the microelectronic substrate by removing a second portion of the encapsulating material adjacent to the second surface.